1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

As a gift to Bernice P. Bishop Museum, the people of Pukapuka generously made a complete collection of objects of material culture, excepting only the few objects which they can no longer make. A day-to-day study of the processes of manufacture was of great value in clearing up many problems of technology.

Whatever success our work achieved, therefore, is due to the enthusiasm and cooperation of our informants, in the first place, and also of the people of Pukapuka as a whole. Our early work was done entirely with the aid of interpreters. Much of Ernest Beaglehole's later formal work was done with interpreters because he did not wish to risk losing material through inability to follow crucial explanations. Informants could speak much Rarotongan but required the use of Pukapukan when discussing language and various concepts of native Pukapukan life. Our interpreters could speak easily only the Rarotongan dialect. Thus a great deal of explanation between informant and interpreters was necessary before the final English version could be presented to us. For this reason and also because many subjects can not be discussed easily through the medium of a third person, Pearl Beaglehole accepted the necessity of doing without interpreters at the earliest possible moment.

CULTURE CONTACT

Pukapuka was discovered by Commodore Byron in 1765. Between that time and the landing of the first native missionaries of the London Missionary Society in 1857, the island was probably rarely visited by Europeans, presumably because of its isolation and the poverty of natural resources. Native tradition tells of three European ships which visited Pukapuka during these years. Between 1857 and the visit of the Reverend Wyatt Gill in 1862, most of the people of the island had been converted to Christianity. Peruvian slavers twice visited the atoll about 1863 and removed about 100 men and women, only one of whom, the late high chief, Pilato, returned to Pukapuka. In 1869, Captain English of the barque *R. W. Woods* (6, p. 33) landed in Honolulu 42 natives of Danger Island.[1] The natives were unsatisfactory both as plantation laborers and as domestic servants and some time later 20 of them were sent back to Pukapuka by the schooner *Annie*, Captain Babcock. A man from Afia named Tione, according to the Pukapukan account of this labor gang, returned with the Hawaiian party and later married a Pukapukan woman named Takele whom he had met in Hawaii.

The island was formally annexed to Great Britain in 1892 and included within the boundaries of New Zealand in 1901. The first resident agent visited the island in 1914, and since that year agents have been in residence most of the time. The majority of the people are members of the London Missionary Society church. A Seventh Day Adventist mission was started in 1919, a Roman Catholic mission about 1929. All three missions are

1. [Puka puka—ed.]

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

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the group of words in which Fijian ð appears between vowels is not properly distinguishable from the words where Fijian ð corresponds to Pukapukan θ'.

In another category, however, Pukapukan θ' is replaced by the Fijian *s*, said to be pronounced "as in English": *yanga* (to do), *sanga*; *yelu* (to comb), *seru*; *yeye* (foolish), *sese*; *yen* (to mix), *seu*; *yika* (netting needle), *sika*; *yinu* (oil), *sinusinu*; *yua* (water), *suasua* (wet).

Like the ð sound, Fijian *s* occurs in some words where no Pukapukan consonant is now used: *ala* (path), *sala*; *angaanga*[2], *sangasanga*; *olo* (to rub), *solo*.

I find no suggestion in the literature that the Fijian ð is ever palatalized, though this is invariable with the Pukapukan θ. But the semivowel *y* is another Fijian consonant used in some words where Pukapukan requires no consonant: *ate* (liver), *yate*; *atu* (row), *yatu*.

In a few Fijian words *y* corresponds to Pukapukan θ': *yala* (to encircle), *yala*; *yau* (to come), *yau* (to come or go); *yau* (dew), *yauyau* (fog or mist).

The sound θ appears in the Melanesian sound system as worked out by Ray (23,p.30). It is noted in particular for Nengone and Lifu of the Loyalty Islands and for Aneityum in the southern New Hebrides (23,pp.77,139). Because of inadequate linguistic material it is impossible to determine the relation between this Melanesian sound and the voiceless spirant of Pukapuka.

Pukapukan *w* is Fijian *v*. Other consonants seem to correspond in words common to both as follows (Pukapukan given first): k, k; k, ngg (q) ?; l, l; l, ndr; m, m; n, n; ng, ng; p, mb; t, t; t, nd; v, w.

It is regrettable that paucity of phonetic material for any Fijian dialect renders it impossible to draw conclusions, but when trustworthy phonetic and ethnographic material becomes available for the cultures crudely lumped together today as Fijian, it is not unlikely that phonetic and cultural anomalies found in the otherwise prevailing Polynesian culture of Pukapuka will prove no longer to be unique but part of a western sub-culture that may be traced from its eastern boundary in Pukapuka across to, and beyond, Fiji.

POPULATION

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The population for the years for which figures are available (7) is as follows: 1906, 435; 1911, 490; 1916, 474; 1926, 526; 1935, 632.

The increase in population from 1906 to 1911, followed by a decrease in 1916, is at least partly explained by the fact that 52 Pukapukans were transferred to Rarotonga in September 1914, in order to relieve distress caused by the tidal wave that swept Pukapuka in January of that year. The population today shows a great increase over the population figures of 1916 and 1926. Records for 1933 and 1934 show a total of 41 births as compared

[2] Pukapukan informants held that the reduplicated form of the word *yanga* is not *yangayanga*, but *angaanga*.

1. Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

ing watching a competition such as coconut husking, or sitting and talking, wrap their arms about each other and lean on each other's shoulders. Though any adult adopts this position, it is particularly striking to the observer when it occurs among men. When relaxing, women lean against other women. A woman frequently lies with her head on the lap of another woman. Less frequently, a young woman, watching a group sport, leans against an older man and wraps her arms over his shoulder. Occasionally the older man may rest his head in her lap. These attitudes, taken up in large or small gatherings, occasion no comment of any nature nor any embarrassment to the parties concerned.

ENVIRONMENT

Topography

The atoll of Pukapuka lies about 390 miles northeast of Samoa, 715 miles northwest of Rarotonga. Its nearest neighbor, Nassau, is about 42 miles southeast and was formerly occupied by a colony from Pukapuka.

Pukapuka consists of three islets with a land area of 1,250 acres, and a few sand banks grouped around a barrier reef (fig.1,*a*) that encloses a lagoon about 5 miles long and 2 to 3 miles wide. Pukapuka, the northern islet, is about 1 mile wide and has a greatest depth of about ½ mile. The entire population of the atoll lives on the lagoon shore of Pukapuka (fig.1,*b*). The word Pukapuka has no meaning but various etymologies. The old name for the atoll, Te Ulu-o-te-watu (Head-of-the-rock), refers to the legendary origin of the islands and is commonly used in old chants. The occupied part of this islet is generally called Wale (Home). The two southern islets, Motu Ko and Motu Kotawa, form reserve food lands (*motu*—translated throughout as reserve) and are visited occasionally for food and copra supplies. Each reserve has a small permanent settlement of houses occupied during these visits.

The landing passage (*avo*) on the western side of Pukapuka (Wale) is used by canoes and flat-bottomed boats only. All supplies and passengers are transferred outside the reef to native canoes for transport across the reef to the landing beach. The westernmost section of the islet is occupied by the people of Yato village. This village extends across the causeway which spans an arm of the lagoon and occupies further ground east as far as the present London Missionary Society church. Formerly this eastern site was the only site of Yato village. The building of the causeway about 60 years ago and an epidemic sickness suggested the transfer of part of the village to its present western site. The boundary of this village runs from the lagoon beach through the middle of the church and so to the outer beach. The section of land north of the village road embraces one reserve of Yato called Niua. The other reserve is Motu Kotawa.

The houses of Loto village are contiguous with those of the eastern section of Yato. They stretch along the lagoon and across the island to the outer beach, a location adopted after the tidal wave of 1914. North of the village road running through Loto stretches the only reserve of Loto, Uta, which extends to the outer beach. The third and eastern-

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukar

Alatakupu's adopted son called out: "Why are you afraid, O men of Wale? This man has killed many of your sons and friends. Spare him and he will kill many more, including you here for being rebels." Then he ran back up to Alatakupu and struck him in the face with a club. His son seized the half-stunned chief by the neck and throat. Friends from Wale renewed their courage. They placed a cord round the chief's neck and forthwith strangled him to death. People were so angry with his body, even dead, that they refused to allow it to be taken back to Wale for burial in the chief's cemetery. The body was left on Motu Ko and buried, along with the bodies of some of the old men, in a lone grave in the middle of the village of Te A.

When all had returned to Wale, the people in meeting decided to wipe out the stock of Alatakupu, root and branch. All his direct male relatives, without exception, including even suckling babes, were hunted out and strangled; their bodies thrown away.

There was thus left no male issue to succeed to the title. It was decided to wait until later years when a distant female relative of the main line might give birth to a male child before making another appointment to the position of chief. In the interregnum Tuiva was asked to act as regent for the island. Tuiva became the controlling head of the island until it was opportune to appoint, as the new chief, the boy Ikilua.

The two stories of Alatakupu illustrate very well a feature shared with other accounts of Pukapukan fighting: the apparent blood lust that gripped a Pukapukan crowd when it set out to kill. Little mercy was shown or expected; no courtesies were granted a dying person. Old animosities were revived and everyone not a friend became an enemy to be put out of the way without consideration. There appears to have been a boiling-over of repressed hatred, a collective running amok, which is hard to harmonize with the more usual gentle Pukapukan nature. It is likely that the killings resulted in a sort of emotional catharsis which, when finished, prepared the atoll group for a further period of peaceful and friendly village relations.

Manihiki Immigrants

The two Manihiki warriors mentioned in the story of the killing of Alatakupu came to Pukapuka in a drift canoe from Manuyiki (Manihiki). The canoe was named Tialalunga, and in it were Tualangi and Pailoa and five women including Tata, wife of Tualangi, an elderly woman; Tokoua; Telua; and two other women who were drowned. This canoe is often referred to as Te Vaka-o-Tata (The Canoe-of-Tata).

These people set out from Lakawanga (Rakahanga) to sail to Manuyiki (Manihiki). Halfway across, a strong gale blew up; the canoe drifted and the course was lost. But for the protection of a large sail fish which swam along the windward side of the canoe, sheltering it from the worst of the seas, the canoe would have been swamped. This sail fish had been sent by the Manihiki gods after their adherents had prayed to them for protection. After many days at sea, during which the drifters kept themselves alive by eating raw fish (there was a big tuna fish in the canoe when it landed at Pukapuka), the canoe drifted to Pukapuka, coming up from the south and striking the reef outside Motu Kotawa. The people were too weak to make a good landing on this difficult reef, and coming over the reef the two women were washed

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

overboard and drowned. The survivors set out to explore the reserve and ate *pulaka* tubers from the gardens. They were found a day or two later by men from Yato who went to the reserve to catch birds. The strangers were taken to Wale, well cared for and given to the several lineages to be looked after. Tata, Tualangi, and Pailoa were adopted by i Tua; hence the two men were assisting Alatakupu on the visit to the reserve. Telua was given to Yamaunga, and Tokoua to Muliwutu. The unmarried man and women soon found Pukapukan mates. The two men were killed in the fight on Ko, but Telua and Tokoua had children, and their descendants are mixed with the present Pukapukan population. (Note that the strangers had to be adopted by the paternal lineages before they could have status in Pukapukan society.)

That this drift voyage from Manihiki to Pukapuka was not exceptional is shown from a report of Gill (12,p.29) who landed on Nassau in 1862 and found there remains of a settlement of people from Manihiki, six men and one woman, who had set out in 1859 or 1860 to sail to Rakahanga and had drifted to Nassau. The castaways lived on Nassau for two years before being returned to Manihiki by a passing vessel.

First White Contact

It was during the time of Alatakupu that the first white man's ship (*papi*, a European boat with two masts) came to Pukapuka:

The men of Pukapuka, organized on the *matakauu* basis (p. 374), went out in canoes to meet the boat. The *yiliyili* coconut midrib was thrown at the strange vessel, and because it was not returned, this was taken as a sign of peace. Two men of the advance canoes scrambled up the high sides of the boat and onto the deck. These two were Tawaki, a warrior of Yalongo and Kaleva-motu, warrior of Yangalipule. Other canoes came up with mats and coconuts which were passed up to the boat to be exchanged for the white man's goods. The two reserve canoes likewise came up, and a brisk bartering was soon in progress.

Profiting by the confusion on the deck, Tawaki cut away pieces of rope from the rigging and threw these into the canoe. Then he picked up wire, iron, nails, anything in fact that he could lay his hands on, and threw them overboard. Becoming more daring still, he walked up to the captain, who was smoking a pipe, and took the pipe from his mouth to inspect the strange object. The captain resented this freedom. He went below and came up with a gun (called by the Pukapukans *ngutuliuuli* because it resembles a detumescent penis). Tawaki had gone to the bow and was busily cutting off a piece of rope when the captain saw him again. He pointed his gun at Tawaki, but Tawaki did not stop. Then the captain fired and Tawaki dropped dead. The crew produced guns and drove the Pukapukans over the side. The body of Tawaki was lowered into a canoe, and the fleet sheered off from the strange vessel, which hoisted sail and slowly drew away from the island. The body of Tawaki was brought ashore amidst much weeping and buried in his own cemetery. The iron and ropes were divided among all the men of the island.

The Regency

Tuiva's regency was in general a peaceful period. He realized that much of the trouble in the time of Alatakupu was due to the fact that the old men had found time hanging heavily on their hands and invented mischief to make life more interesting. Tuiva therefore refused to admit to the old men's age grade any person who was not "crawling with age".

fish scattering through the sea. When Malo was killed, a paddle was flashed in his canoe as a sign to the people crowded on the beach that misfortune had overtaken the canoes. The people then came out to the reef, and when the canoes had maneuvered through the landing channel, death chants were started and the body carried ashore.

The dog was looked on as a strange animal and created much interest. It was called *kiole* (rat) or *tupua* (animal) and became a sort of prestige symbol for Muliwutu lineage. It was taken to the principal god house and sacred enclosure of the lineage, given the best food that the island produced, and ornamented with leaves and flowers. The people of the lineage were never tired of boasting of their prowess and bravery in stealing this animal from the white man's boat. The dog was honored thus until it died of old age. Other lineages later tried to get strange objects as prestige symbols, but none were so sensationally successful as this Muliwutu "rat".

VOYAGING

The following summary accounts of canoe voyages away from Pukapuka are given for the light they throw on Pukapukan social customs and on early contact with other islands of the Pacific. It is inevitable perhaps that many of the places and islands named in these accounts can not be positively identified. Some of the lands visited, such as Witi (Fiji), Tonga, Niue, Yamoa (Samoa), Niutao, the Tokelau Islands, probably are the islands that have these names today, but other islands, such as Yayake, Yiva, Yake, must remain covered with the mists of obscurity. The accounts of these voyages establish the fact that the Pukapukans in the heyday of their navigation must have been as fearless sea rovers as their Polynesian cousins of other islands. The knowledge of astronomy that remains today shows that some of the remembered star courses were exceedingly accurate, and, given courage and reasonable good luck, there was every likelihood that Pukapukan sailors could and did reach distant islands.

The reasons for undertaking these sea voyages were: a desire for adventure, desire to visit the lands and peoples that traditions told them lay below the horizon in all directions; desire to bring back to Pukapuka useful stones that could better be used for implements than the soft coral rocks and shells of the native environment; desire to advance the prestige of one paternal lineage as against the others. Further, some voyages were made through necessity: through shame at some unpleasant experience, or through the virtual exile that awaited any Pukapukan man whose powers, whether physical or supernormal, made it seem to the populace that he might someday be led to use these powers to advance his own private, selfish, and anti-social interests against the interests of the group as a whole.

I think there is no reason to discredit the validity of these voyages simply because incidents that smack to us of the supernormal or the impossible, have crept into the accounts. Doubtless returning voyagers made the most of their exploits, and tall stories have found credence with the stay-at-homes in every age. But such stories are always woven into the context of actual fact. It is probably impossible today to separate imaginary adventures from

1: Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

173 tore apart the pig. The people of Tonga were surprised at the young man, and asked, "Whence comes this young man?" Before they could launch a canoe to investigate, he slipped ashore and hid again in the mountains.

Some days later, the young man decided that the time had come for him to remember his mother's remarks and avenge his people. He gathered together many large rocks and boulders on the top of his mountain. Then he went down to the shore villages. He met a man close to one of the villages, wrestled with him, and tore him apart. He went into the villages and fought everyone he saw, tearing each apart with his hands. He did this until the breath came short in his body, and a formidable crowd of Tongans had gathered to fight him. He rushed inland, pursued by the Tongan warriors. He reached the top of his mountain far ahead of his enemies, and as they toiled up the slopes after him, he rolled down on them the boulders already prepared. His mother, excited at the slaughter of her enemies, urged him on to greater slaughter, but his father, appalled at the killing of his people, cried: "Stop, my son, the people of Tonga are now all finished." The boy finally desisted at the entreaties of his father.

Soon after this, his mother, being sick for sight of her native land, went with her son back to Pukapuka, where she told her lineage of the revenge. Her heart was with her husband, however, so after a short stay in Pukapuka both mother and son returned to Tonga and were welcomed back by the chief. They moved to another island, where they settled. The mother's heart was now glad to live in Tonga, for her blood was revenged on the Tongan people.

173 Before Nokaulava returned with her son to Pukapuka, an exploring
167 expedition had set out from Pukapuka to search for the missing people of
484 Matanga. This was a fleet of canoes from Muliwutu, also with about 100 men as crew. With α and β Centauri as their guiding stars, the fleet sailed to the southwest and finally reached Niue. They did not find the missing men of Matanga, but were apparently so well treated in Niue that most of them decided to stay there. A canoe came back from Niue to report the decision; nothing more was ever heard of the emigrants, and it is supposed that they settled down in Niue and intermarried with the people.

173 All the canoe voyages mentioned by informants were made to particular islands, except one which was meant to be an exploring expedition away from Pukapuka but which got no farther than within earshot of the land. This was a voyage projected by Tuliayanga when he was a young man and before he had succeeded to the chiefly title.

The boy was filled with the lust to travel, his imagination excited by returned travelers' accounts of strange lands below the horizon. His father, Maina, feared for his safety at sea, and refused at first to let him go. Tuliayanga insisted, so his father was forced in the end to allow him to fit out a canoe. When the boy set off, Maina prayed to his god requesting that his son be not allowed to see land anywhere but be made to travel only in a circle that would bring him back to Pukapuka. Tuliayanga sailed a first time, but the morning brought him back to Pukapuka. He sailed a second time, but on the fourth morning he was again in sight of Pukapuka. A third time he set off, and after sailing for several days he knew he was near land because he saw birds flying and thought he heard voices. But he saw no land no matter which way he sailed his canoe. After being at sea for several months, he sighted three islands. He came up to them quickly, with joy in his heart, for these were surely the new lands he had hunted these several moons. But when he came close he found it was only the three islands of Pukapuka to which his god had returned him once more. Tuliayanga was so disgusted with the weighting of the gods against him that he gave up deep-sea voyaging forever.

1:Beaglehole and Beaglehole E-5 (1934-5) 1938 Pukapukans

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Another voyage occurring about this time was that of a man named Palakula and members of his family who sailed away from Pukapuka. Palakula had killed the son of the chief Tuliayanga in a brawl provoked by cruelties of the chief's son to Palakula's children. He chose banishment rather than local punishment. Nothing more was heard of Palakula after he left Pukapuka. It is presumed that he and his crew were all drowned at sea.

Two later voyages were voyages of necessity, not choice. They were made in conformity with the Pukapukan custom that all men of supernormal powers should leave the island forever lest their continued presence on the atoll lead to their acquiring abnormal power over the people of the island.

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Tuliayanga had three grandsons, all sons of his daughter, Kaipa. Their names were Nikau, Aliki, and Kieilu. Of Nikau, the oldest, no record is preserved, though it is known that he left Pukapuka. Aliki, the second son, early showed signs of precocious supernormal powers, so under the guise of a competition it was decided to test him. A group of men, all armed with sticks, the ends of which had been dipped in charcoal and water, surrounded Aliki and pretended to attack him. Aliki, also armed with a stick, defended himself against their blows; when the contest stopped, it was found that there was no trace of a black mark on his body. Then it was the turn of Aliki to dip his stick in charcoal. Again the men attacked him; when the contest paused a second time, it was found that each man had a black mark on his body, some on the ear, some on the hand, others on the leg, back or head. This was considered sufficient proof that Aliki had indeed supernormal powers, and he was ordered to leave Pukapuka.

Having fitted out his canoe, he sailed for many days to the west. His crew died of exposure, the sennit lashings of the canoe rotted, and the canoe fell to pieces just when he came in sight of land. He swam ashore and learned afterwards that the name of the island was Niutao (Ellice Islands). He feared the people of the island, so he hid by day and stole food by night. One morning before dawn, when he was hurrying back to his hiding place among the ngeyo bushes by the shore, he met a young girl. She reported the encounter to her father, who watched for the stranger and after several attempts managed to catch him. The two men became friendly and when a tribal war later broke out on Niutao, Aliki rendered such signal service to the group of his protector that they were victorious. Aliki was adopted by the girl's father, married her, and lived on Niutao as a permanent settler. He taught the people of Niutao to wrestle and throw spears. This is why some believe that after the Pukapukans, the men of Niutao are the most skillful wrestlers and spear throwers in the Pacific.

Kieilu, the third grandson of Tuliayanga, was made cautious by the fate of his two brothers. Some time after they had left Pukapuka, Kieilu was challenged to a log-lifting contest by a man of Yasawanga, named Tahuawa. Kieilu planned to be defeated in this contest, even though he could have won it easily. Kieilu lifted his log first, but no higher than his chest. Tahuawa, careless of his strength, lifted the log with ease and held it above his head. The people saw this and feared his strength. They ordered him to fit his canoe and sail away to the west to find a new home. Tahuawa asked his friend Kieilu to accompany him, but Kieilu replied that he was a land bird and had no liking for the sea. So Tahuawa repaired his big double canoe and sailed away.

A few days after leaving Pukapuka, he ran into a heavy gale, with strong seas and winds, sent by the god of waterspouts and whirlwinds, Te Alongaoa, in order to destroy him and his fellow adherents of the god Talitongaauka. The two gods had been fighting each other, and Talitongaauka had sent a shark which destroyed Tautuna, a man of Te Alongaoa who had voyaged abroad. But Talitongaauka and his attendant spirits were on the watch, and when Te Alongaoa sent his agents to overwhelm the canoe of

2:Macgregor E-2 (1933) 1935 Pukapukans

Physical Characteristics

At the time of our visit at Pukapuka the natives were living away from the village. For this reason it was impossible to make a series of physical measurements. The following notes sum up the observations made of those natives who came in from time to time to see our party.

The composition of the features differs from that of Samoans, Tongans, and western Polynesians. The faces of many Pukapukans closely resemble natives in the Tokelau Islands, a similarity that is startling in many individuals. Many Samoans have an Oriental cast of countenance in their high cheek bones and upward-tilted eyes, which frequently have a trace of an epicanthic fold. Most of the natives at Pukapuka have high malars and wide, deep-set eyes with no trace of the epicanthic fold. Prognathism is absent. Brow ridges are of medium thickness and the glabella is prominent, as compared with these features in Samoans and Tongans. I saw one markedly convex nose and several that were slightly convex. Many noses are long and relatively narrow for Polynesians, and many have sharply flaring alae, characteristic of Tongans. The root is low and concave. The lips varied from thin to exceptionally thick and everted, but the thick type is the commoner one. The hair is black, varying from a medium to a deep wave. The men have a medium beard, heavier than is common among Samoans. The skin color of the face is exceptionally dark for Polynesians, but this may be due to life on an atoll where a great deal of time is spent on the water and exposed to the sun. Both men and women had the upper parts of their bodies clothed, so I was unable to observe less-exposed parts of the body. The women were short for Polynesians and much shorter than the men.

Geography

The atoll of Pukapuka (latitude 10° 53′ S., longitude 165° 50′ W.) lies about 390 miles northeast of Samoa. Its nearest neighbor is Nassau Island, 45 miles southeast, an atoll which formerly had a native population but is at present occupied by a European planter and laborers from Pukapuka and Ellice Islands.

Pukapuka consists of three islets and a few small sand keys which together form a rough triangle with the apex to the north (fig. 1). The northern islet, Pukapuka, is about a mile wide. The entire population lives along the southern or lagoon shore of this islet. Motu Koe (Ko) and Motu Kotava (Katava, Kavata) are planted with coconuts, taro, and fruit trees, and are reserved solely as plantations. Each has a small settlement of shelters and houses which are used during the harvesting periods. Bryan (1) reports that the western end of Motu Kotava has one of the most luxuriant growths of vegetation on any atoll in western Polynesia.